

Abstract

Diamond fine particles having porous structure known in a high thermal resistance and low dielectric constant film has a high thermal conductivity and is expected as an insulating film for multiplayer wirings of a semiconductor integrated circuit device. A liquid composition of diamond fine particles, which are raw material of the film, is unstable as colloid, resulting in low reproducibility and yield in the production of films. It becomes possible to impart a very low viscosity and improved stability to the colloid liquid composition of diamond fine particles by containing a small amount of amine. If necessary, a thickener may be used to adjust the viscosity appropriately, so that various kinds of application systems can be used. A low dielectric constant film having a relative dielectric constant of about 2.5 can be thus obtained. Further, the liquid composition may be utilized as an abrasive for finishing.